TABLE 3.—*Mean free-air temperatures, relative humidities and vapor pressures and resultant winds during March, 1926, at Washington, D. C.*

Altitude m. s. l. (meters)	Naval Air Station (7 meters)			Weather Bureau (34 meters)	
	Temperature	Relative humidity	Vapor pressure	Direction of wind	Velocity
	°C.	Per cent	Mb.		M. p. s.
Surface	1.6	68	5.08	N. 55° W.	2.1
250	0.6	66	4.68	N. 68° W.	4.3
500	−0.2	64	4.33	N. 65° W.	3.1
750	−1.3	63	3.98	N. 66° W.	7.4
1,000	−2.5	63	3.73	N. 64° W.	8.4
1,250	−3.8	64	3.44		
1,500	−4.9	63	3.11	N. 68° W.	10.7
2,000	−6.8	61	2.51	N. 73° W.	11.6
2,500	−8.6	58	1.98	N. 70° W.	11.3
3,000	−11.0	55	1.56	N. 75° W.	13.0
4,500	−13.4	52	1.17	N. 59° W.	13.8
3,000	−16.6	51	0.89	N. 48° W.	15.0
4,500	−19.8	49	0.69	N. 52° W.	14.7

THE WEATHER ELEMENTS

By P. C. DAY, In Charge of Division

PRESSURE AND WINDS

The atmospheric circulation was distinctly sluggish for the first month of spring from the Rocky Mountains westward, no cyclone of importance entering the United States from the Pacific coast during the entire month, nor were anticyclones particularly active, though the pressure was moderately high over the far Northwest during much of the month.

East of the Rockies there were about the normal number of cyclones moving from the British Northwest, but they entered the United States somewhat farther east than usual and were mainly effective over the northern districts from the Great Lakes eastward. In one case, however, a storm entered the United States from the Canadian Northwest and moved directly toward the South Atlantic States, but it covered only a narrow area and caused little precipitation until after reaching the coast where it recurved to the Northeast and developed considerable importance after passing to sea. Several cyclones developed over the far Southwest or in the vicinity of the west Gulf and moved either directly toward the Great Lakes or pursued a more easterly course over the Gulf States and thence northeastward near the Atlantic coast.

Over a large area embracing the middle and northern portions of the Plateau and Great Plains there was little important storm activity.

The principal precipitation of the month was associated, as is usually the case, with the southwestern storms, though one of northern origin passing eastward over Lake Michigan on the morning of the 7th brought some heavy precipitation during that and the following day to the Ohio and middle Mississippi Valleys and over the Atlantic Coast States from the Carolinas to southern New England.

A cyclone giving important precipitation in the Gulf States, developed over southeastern Texas on the 10th and moving slightly northeastward reached the south Atlantic coast by the morning of the 11th whence it passed northeastward into the ocean without important development. The precipitation attending this storm ranged up to two inches or more over large areas in the Gulf and South Atlantic States.

A most unusual case of heavy rain without important evidence of cyclonic action occurred in the vicinity of New Orleans on the 20th, when in connection with a local thunderstorm nearly 6.50 inches of precipitation occurred in a period of less than 12 hours. Other southwestern storms giving precipitation of importance over the southern and eastern districts passed over those sections on the 22–24 and 25–27.

The most important storm developed over the far Southwest on the morning of the 29th and by the following morning the center had advanced to Arkansas whence it moved to northern Indiana by the morning of the 31st as a storm of wide extent and severe character. It was attended by heavy snows in the southern Rocky Mountain region and over a wide area thence northeastward to the Great Lakes, while heavy rains prevailed over large areas from Texas eastward to the South Atlantic States and northeastward to the Ohio Valley.

Snowfall, heavier than had occurred at any time during the winter, was reported from numerous sections from the Texas panhandle northeastward, the amounts being phenomenally heavy in portions of western and northern Illinois and near-by portions of other States High winds drifted the snow to such an extent that transportation was greatly hampered and in some instances suspended entirely for several days.

The average pressure was well above normal from the Southern Plains north and northeast to, and including, the western Canadian Provinces, and in most other portions of the country save California and from the Great Lakes and Ohio Valley east to the Atlantic coast, including the Canadian Maritime Provinces.

Compared with February just preceding, the average pressures were mainly higher, and decidedly so over the central valleys, the far Northwest, and the western Canadian Provinces. They were slightly lower than in February, over the Southwest and in California and portions of near-by States. Usually the average March pressures are below those of February in practically all parts of both countries.

The month was notably free from high winds over the western half of the country, particularly over the Pacific coast section where at a number of points the total wind movement was the least of record for March. In the central and eastern districts the first two decades were without important storms, but the last decade had some high winds, particularly in the Southwest during the early part of the decade and from Texas northeastward to the Great Lakes from the 29th to 31st. The details of these storms will be found in the table at the end of this section.

TEMPERATURE

The persistent mild temperatures which had featured much of the winter over large portions of the country were not found in March except in the far West, and in the last week a marked change occurred over the Rocky Mountain and Plateau States so that unseasonable cold prevailed thereafter almost throughout the country save in the Pacific and Atlantic States.

The first half of March brought a number of quick changes from cool weather to warm, or vice versa, in districts east of the Rocky Mountains, but was generally colder than normal over this area save in the northern half of the Plains, where the period was largely warmer than normal. The temperature deficiency was notable in the Ohio Valley and Pennsylvania and thence southward almost to the Gulf Coast, where this half-month averaged generally from 8° to 14° cooler than normal, while an excess nearly as great was prevailing at the same time in Montana and districts adjacent. In the latter part of the second decade the warmth became even more

marked in the upper Missouri Valley, and temperatures rose to normal in the vicinity of the Mississippi River and more gradually to eastward, though much of New York and New England remained cooler than normal, as did most of the coast districts from North Carolina to Texas. A marked break in the long-continued warmth in the Northwest came about the 24th, and the cold wave quickly extended eastward and southward, so that, as already noted, the final week of March was cool over nearly all the country.

March, as a whole, was cooler than normal throughout the eastern half of the country and from Texas and New Mexico northward to the southern portions of Wyoming and Nebraska. South of the Ohio River and central Virginia this March was very nearly the coldest of record, and the abnormality is further brought out by the fact that the month actually averaged colder than February just before it in the lower Ohio Valley and almost everywhere to southeastward, where the normal rise in temperature from February to March is about 8° to 12°. The average deficiency of the March temperature was about 6° to 7° over most of the Ohio Valley and the southern Appalachian region, and about as great in Vermont and northern New York.

The region west of the Continental Divide, together with Montana, the Dakotas and parts of Minnesota, Iowa, Nebraska and Wyoming, averaged warmer than normal. The excess was greatest, 6° to 8° per day, in interior California and was about as great in the eastern half of Montana, though this latter area experienced a cold week at the close of the month.

From January 1 to March 23, Havre, Mont., averaged 15.7° warmer than normal. In Idaho, Washington, and Oregon, as well as Montana, the winter, as a whole, has been easily the mildest of record. March by itself was the warmest March of record, or almost the warmest, in all parts of the Pacific States, and in much of Nevada and Idaho; but in Montana it failed by almost 8° to equal the mark of March, 1910.

The highest temperatures occurred usually very near the middle of the month in the far Northwest and on the northern coast of California, on the 22d or 23d in the rest of California, and nearly always between the 18th and the 25th in all other sections, save in Florida where most of them occurred on the last day.

The lowest marks were reached about the 5th or 6th or else about the 14th in the Lake region and Ohio Valley and districts to the east, nearly always on the 13th, 14th, or 15th from eastern Kansas and the central valleys southward and southeastward, chiefly on the 7th or near the end of the month in the Dakotas and Nebraska, mostly about the 6th or on the 29th in the far Northwest and in the middle Plateau area, but usually about the 10th in California and Arizona. Several places in the southeastern portion of the country report the low readings on the 14th as the lowest of record so late in March.

PRECIPITATION

The distribution of precipitation was decidedly uneven, an excess being found in almost all southern portions from eastern Arizona to the south Atlantic coast, in most of the upper Lake region, and in a few other scattered districts. An area extending from southeastern Texas to southern Alabama received amounts from 9 to 17 inches, the heaviest falls occurring in southeastern Louisiana. Texas and Louisiana report that no March since their State-wide services were organized has averaged as wet as this one.

There was decidedly little precipitation in most portions of the Pacific States, particularly in central and northern California and the southern half of Oregon, many stations reporting this as the driest March of record. Likewise the Missouri Valley had very little, notably the upper half; and there were considerable deficiencies in several smaller areas, as northeastern Iowa and southern Wisconsin, the Middle Atlantic States and southern New England, and the southern third of the Florida peninsula.

The districts in eastern Texas and near the middle Gulf coast which had such large totals for the month received most of the rain during the latter half and other districts between Arizona and northern Florida received the bulk of their precipitation during the final week. In the northeastern portion the falls were well distributed through the month, but the north Pacific region received its supply chiefly during the middle decade.

SNOWFALL

Again the snowfall was much less than the normal in western mountain districts, being surprisingly scanty in the Pacific States, Montana, Idaho, and Nevada, and much of Utah and Wyoming.

Southeast of these districts, however, the March snowfall was more abundant, especially in New Mexico, where it averaged almost as much as the maximum received in March.

The northern plains had but little, but the middle Plains, most of Oklahoma and the Texas Panhandle had large falls, the chief one as the month neared its close. Owing to the snowfall of this same storm as it moved on eastward, most of Missouri, Iowa, Illinois, and northern Indiana had large monthly amounts, and traffic was much delayed as a result. In the Lake region and eastward the month's snowfall was not far from normal, but near the middle Atlantic coast there was usually very little. In most of North Carolina and parts of the States adjoining, on the other hand, considerable amounts of snow for March fell early in the second decade.

In the elevated portions of the far West the stored snow at the end of March was very generally less than the average quantity at that date, the deficiency being particularly marked in all parts of the Pacific States and most of Arizona. The prospects for summer water flow are poor in nearly every portion of those States. Somewhat less unsatisfactory were the snow conditions in Nevada, Idaho, Montana, and Utah. On the other hand, from Wyoming to New Mexico the snow supply is not far from the average, and many river systems flowing eastward from the Continental Divide are expected to carry somewhat more than their normal quantities of water.

RELATIVE HUMIDITY

Generally the relative humidity was less than normal over the greater part of the country, the principal exceptions being the central and southern Rocky Mountain region, where it was in excess, frequently by a large per cent, and there were slight excesses in the Southern Plains and over much of the Lake region.

The deficiency was generally large in the middle and East Gulf States, over the southern drainage of the Ohio, in the Appalachian Mountain region, and from the Missouri Valley westward including most of California and the middle Plateau.